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| 09/995,456 | 11/27/2001 | Richard P. McLaughlin | 57266US002 | 2222 |

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| EXAMINER | |
|---|---|
| COBANOGLU, DILEK B | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 3626 | |

DATE MAILED: 06/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/995,456 | MCLAUGHLIN, RICHARD P. | |
| | Examiner | Art Unit | |
| | Dilek B. Cobanoglu | 3626 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *27 November 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/25/2002*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

1. Claims 1-44 have been examined.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 30-44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. Claim 30 discloses "planning an orthodontic treatment based upon the crowding/spacing data entered into the first and second tables". It is not clear how the planning process occurs on the claim. Is the planning to figure out the distance and direction required to move each tooth, or only finding out the existing space between the teeth and the midline. Also, in the following claims, it's disclosed that summing the crowding/spacing data of the first and second tables and then summing these totals, so creating first and second initial discrepancies; entering other created space such as extractions, strippings, expansions and distalizings, then adding these values with the first and second totals to create first and second remaining discrepancies. It is not clear how and for what these discrepancies are used. It's not clear what the obtained values are for and how they are to be used. Are the discrepancies the distances from the

midline and how is the distance from each tooth from the midline is calculated or obtained from summing these values is not clear.

B. Claims 31-44 are dependent to claim 30, and follows the same limitations, therefore they are rejected under 35 U.S.C. 112, second paragraph with the same reasons described above and incorporated herein.

***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1-44 are rejected under 35 U.S.C. 101 because these claims do not produce tangible and useful results.

A. Claims 1, 14, 22 and 30 disclose entering crowding/spacing data, curve of spee data and incisor position data into first and second tables, and summing the first and second data and obtaining a first and second total. This is not a tangible and useful result. At the end of summing these data one can obtain a number for each table, and this is not a tangible and useful data for any treatment. Also, it's not clear what these numbers represent and how they are to be used.

B. Claims 2-13, 15-21 and 31-44 are dependent claims and disclose the same limitations, therefore they're rejected under 35 U.S.C. 101 with the same reasons as described above.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-44 are rejected under 35 U.S.C. 102(b) as being unpatentable by Andreiko et al. (hereinafter Andreiko) (U. S. Patent No. 5,447,432).

A. As per claim 1, Andreiko discloses a method of developing an orthodontic treatment comprising:

i. entering first crowding/spacing data in first and second tables, wherein the first table relates to cuspid to midline regions of a patient's jaw, wherein the second table relates to second molar to midline regions of the patient's jaw, and wherein the first crowding/spacing data relates to the right and left cuspid to midline regions of the patient's jaw (Andreiko; col. 12, lines 18-32, col. 13, lines 53-68, col. 37, lines 5-18 and Fig. 4);

ii. entering second crowding/spacing data in the second table but not the first table, wherein the second crowding/spacing data relates to bicuspid regions of the patient's jaw (Andreiko; col. 17, lines 40-59);

iii. entering third crowding/spacing data in the second table but not the first table, wherein the third crowding/spacing data relates to molar regions of the patient's jaw (Andreiko; col. 17, lines 40-59);

iv. entering curve of Spee spacing data in the first and second tables, wherein the curve of Spee spacing data relates to space required to correct a curve of Spee of the patient's jaw (Andreiko; col. 15, line 53 to col. 16, lines 4);

v. entering midline spacing data in the first and second tables, wherein the midline spacing data relates to space created and required to move a midline of teeth in the patient's jaw (Andreiko; col. 37, lines 19-35);

vi. entering incisor position data in the first and second tables, wherein the incisor position data relates to space required to correct positions of incisors in the patient's jaw (Andreiko; col. 17, lines 40-59);

vii. creating for the first table but not the second table a first total by summing the first crowding/spacing data, the curve of Spee spacing data, the midline spacing data, and the incisor position data (Andreiko; col. 37, lines 19-51 and col. 39, lines 53-55); and,

viii. creating for the second table but not the first table a second total by summing the first crowding/spacing data, the second crowding/spacing data, the third crowding/spacing data, the curve of Spee spacing data, the midline spacing data, and the incisor position data (Andreiko; col. 40, lines 2-18 and line 65 to col. 41, lines 15).

B. As per claim 2, Andreiko discloses the method of claim 1 further comprising adding other created space to at least one of the first and second totals (Andreiko; col. 14, lines 25-35).

C. As per claim 3, Andreiko discloses the method of claim 2 wherein the other created space comprises space created by extractions (Andreiko; col. 14, lines 25-35).

D. As per claim 4, Andreiko discloses the method of claim 2 wherein the other created space comprises space created by stripping (Andreiko; col. 12, lines 46-64).

E. As per claim 5, Andreiko discloses the method of claim 4 wherein the other created space comprises space created by expansion (Andreiko; col. 5, lines 13-17).

F. As per claim 6, Andreiko discloses the method of claim 5 whether the other created space comprises space created by distalizing (Andreiko; col. 12, lines 46-64).

G. As per claim 7, Andreiko discloses the method of claim 2 wherein the other created space comprises space created by expansion (Andreiko; col. 5, lines 13-17).

H. As per claim 8, Andreiko discloses the method of claim 7 wherein the other created space comprises space created by distalizing (Andreiko; col. 12, lines 46-64).

I. As per claim 9, Andreiko discloses the method of claim 2 wherein the other created space comprises space created by distalizing (Andreiko; col. 12, lines 46-64).

J. As per claim 10, Andreiko discloses the method of claim 9 wherein the other created space comprises space created by stripping (Andreiko; col. 12, lines 46-64).

K. As per claim 11, Andreiko discloses the method of claim 1 further comprising entering midline and molar relationships into a midline chart.(Andreiko; col. 42, lines 42-68).

L. As per claim 12, Andreiko discloses the method of claim 1 further comprising entering data from the first and second tables into an anticipated treatment chart (Andreiko; col. 44, line 63 to col. 45, line 22).

M. As per claim 13, Andreiko discloses the method of claim 12 further comprising entering midline and molar relationships into a midline chart (Andreiko; col. 42, lines 42-68).

N. As per claim 14, Andreiko discloses a method related to orthodontics, which the first part of the claim repeats the same limitations as claim 1, therefore is rejected with the same reasons given above and incorporated herein. Andreiko also discloses a method related to orthodontics comprising:

i. entering other created space in the first and second tables (Andreiko; col. 14, lines 25-35);

ii. summing the first total and the other created space to create a third total and entering the third total in the first table as a first remaining discrepancy (Andreiko; col. 40, lines 42-64); and,

iii. summing the second total and the other created space to create a fourth total and entering the fourth total in the second table as a second remaining discrepancy (Andreiko; col. 40, lines 42-64).

O. Claims 15-21 repeat the same limitations as claims 4-5-6-3-11-12-13 respectively, and therefore are rejected with the same reasons as described above and incorporated herein.

P. As per claim 22, Andreiko discloses a method related to orthodontics, which the first part of the claim repeats the same limitations as claim 1, therefore is rejected with the same reasons given above and incorporated herein. Andreiko also discloses a method related to orthodontics comprising:

i. entering midline and molar relationships into a midline chart (Andreiko; col. 42, lines 42-68) and;

ii. entering data from the first and second tables into an anticipated treatment chart (Andreiko; col. 44, line 63 to col. 45, line 22).

Q. As per claim 23, Andreiko discloses the method of claim 22 further comprising summing the data in the first and second tables to create respective first and second totals, entering the first total into the first table as a first discrepancy, and entering the second total into the first table as a second discrepancy (Andreiko; col. 37, lines 19-51, col. 39, lines 53-55 and col. 40, line 65 to col. 41, line 15).

R. As per claim 24, Andreiko discloses the method of claim 23 wherein the first and second discrepancies comprise first and second initial discrepancies, respectively, and wherein the method further comprises:

i. entering data related to other created space into the first and second tables (Andreiko; col. 14, lines 25-35);

ii. summing the first initial discrepancy with the other created space to create a first remaining discrepancy and entering the first remaining discrepancy into the first table (Andreiko; col. 40, lines 42-64); and,

iii. summing the second initial discrepancy with the other created space to create a second remaining discrepancy and entering the second remaining discrepancy into the second table (Andreiko; col. 40, lines 42-64).

S. Claims 25-29 repeat the same limitations as claims 3-4-5-6-3 respectively, and therefore are rejected with the same reasons as described above and incorporated herein.

T. As per claim 30, Andreiko discloses a method related to orthodontics, which the first part of the claim repeats the same limitations as claim 1, therefore is rejected with the same reasons given above and incorporated herein. Andreiko also discloses a method related to orthodontics comprising:

i. planning an orthodontic treatment based upon the crowding/spacing data entered into the first and second tables (Andreiko; col. 4, lines 1-9, lines 16-24, line 59 to col. 5, line 23 and Fig. 4, 7).

U. As per claim 31, Andreiko discloses the method of claim 30 further comprising adding midline and molar relationships to a midline chart (Andreiko; col. 42, lines 42-68).

V. As per claim 32, Andreiko discloses the method of claim 30 further comprising adding data related to the planned orthodontic treatment to an anticipated treatment chart (Andreiko; col. 44, line 63 to col. 45, line 22).

W. As per claim 33, Andreiko discloses the method of claim 32 further comprising adding midline and molar relationships to a midline chart (Andreiko; col. 42, lines 42-68).

X. As per claim 34, Andreiko discloses the method of claim 30 further comprising: summing the crowding/spacing data of the first table to create a first total and entering the first total in the first table as a first discrepancy; and, summing the crowding/spacing data of the second table to create a second total and entering the second total in the second table as a second discrepancy (Andreiko; col. 40, lines 42-64).

Y. As per claim 35, Andreiko discloses the method of claim 30 wherein the crowding/spacing data in the second table includes crowding/spacing data relating to a bicuspid region of the patient's jaw (Andreiko; col. 17, lines 40-59).

Z. As per claim 36, Andreiko discloses the method of claim 30 wherein the crowding/spacing data in the second table includes crowding/spacing data relating to a molar region of the patient's jaw (Andreiko; col. 17, lines 40-59).

AA. As per claim 37, Andreiko discloses the method of claim 30 wherein the crowding/spacing data in the first and second tables includes space required to correct a curve of Spee of the patient's jaw (Andreiko; col. 15, line 53 to col. 16, lines 4).

BB. As per claim 38, Andreiko discloses the method of claim 30 wherein the crowding/spacing data in the first and second tables includes space created and required to move a midline of teeth in the patient's jaw (Andreiko; col. 4, line 59 to col. 5, lines 23).

CC. As per claim 39, Andreiko discloses the method of claim 30 wherein the crowding/spacing data in the first and second tables includes space required to correct positions of incisors in the patient's jaw (Andreiko; col. 4, line 59 to col. 5, lines 23).

DD. As per claim 40, Andreiko discloses the method of claim 30 wherein further comprising:

i. summing the crowding/spacing data of the first table to create a first total and entering the first total in the first table as a first initial discrepancy (Andreiko; col. 37, lines 19-51, col. 39, lines 53-55 and col. 40, lines 42-64);

ii. summing the crowding/spacing data of the second table to create a second total and entering the second total in the second table as a second initial discrepancy (Andreiko; col. 14, lines 25-35, col. 40, lines 2-18 and col. 40, line 65 to col. 41, lines 15);

iii. entering other created space in the first and second tables (Andreiko; col. 4, line 59 to col. 5, lines 23);

iv. summing the first total and the other created space to create a third total and entering the third total in the first table as a first remaining discrepancy (Andreiko; col. 40, lines 42-64); and,

v. summing the second total and the other created space to create a fourth total and entering the fourth total in the second table as a second remaining discrepancy (Andreiko; col. 40, lines 42-64).

T. Claims 41-44 repeat the same limitations as claims 3-4-5-6 respectively, and therefore are rejected with the same reasons as described above and incorporated herein.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited but not used prior art teach "Method and Apparatus for Improved Orthodontic Bracket and Arch Wire Technique" 3,660,900 A, "Method and apparatus to produce artificial dentures" 4,551,098 A, "Dental prosthesis and material for making it" 5,697,785 A, "Dental care material and manufacturing method" 5,773,099 A, "Manipulable dental model system for fabrication of a dental appliance" 6,227,851 B1, "Scanning system and calibration method for capturing precise three-dimensional information of objects" 2001/0038705, "Methods for registration of three-dimensional frames to create three-dimensional virtual models of objects" 2002/0006217, "Interactive orthodontic care system based on intra-oral scanning of teeth" 2002/0015934, "Modified tooth positioning appliances and methods and systems for their manufacture" 6,497,574 B1, "Orthodontic treatment planning with user-specified simulation of tooth movement"

6,632,089 B2, "Methods for registration of three-dimensional frames to create three-dimensional virtual models of objects" 7,027,642 B2, "Modified tooth positioning appliances and methods and systems for their manufacture" 7,037,111 B2.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dilek B. Cobanoglu whose telephone number is 571-272-8295. The examiner can normally be reached on 8-4:30.

10. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Thomas can be reached on 571-272-6776. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DBC
Art Unit 3626
06/06/2006

C. LUKE GILLIGAN
PATENT EXAMINER